UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF COMMERCIAL FISHERIES

CALIFORNIA FISHERY MARKET NEWS MONTHLY SUMMARY

July 1965

PART II–Fishing Information*

Sea-surface temperatures, fishing and research information of interest to the West Coast tuna-fishing industry and marine scientists

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*Part 1 - "Fishery Products Production and Market Data" is issued by the Bureau of Commercial Fisheries, Market News Service, Post Office Building, San Pedro, California

JULY 1965 - A RECORD-MAKING MONTH

Sea surface temperatures recorded at Scripps Pier, Scripps Institution of Oceanography, La Jolla, established a new record low for the month of July. Temperatures averaged 63.0° F, or 5.1° colder than the long-term mean, and exceeded the previous low of 64.4° F recorded in 1944.

Other records were set also during the month. Southern California coastal weather continued to extend the record set in June (June was San Diego's cloudiest and coldest in over 20 years), and the persistent July cold weather again was the coldest observed for that month since 1948. The cold band of water near shore (see temperature charts in this issue) well may have served as the anchoring mechanism for these phenomena.

The 3-4 week delay in the forecast onset of the albacore fishery has resulted in the lowest southern California landings since 1945; about 1,740,000 pounds were landed as of July 31. The southern segment of the albacore fishery appears to have been delayed by unseasonal ocean cooling in the Point Conception offshore region in April and early May (see last month's issue of the California Fishery Market News Monthly Summary, Part II - Fishing Information, p. 1), whereas the season in the Pacific Northwest has begun about 1-2 weeks later than usual. Albacore appeared in waters about 200 miles southwest of the Columbia River mouth on July 21, (after first showing at Navy Radar Picket Station 5 (40°30'N., 133°40'W.) in appreciable numbers between June 25 and 27) and sporadic catches were made subsequently in the Cape Mendocino-Cape Blanco offshore region.

Inshore upwelling commenced later than usual this year, and has been somewhat restricted in area. Nearshore temperatures in a narrow band along the Baja California coast have been notably colder in July, and prevailing northwesterly winds have been stronger and more persistent in the region extending from Cedros Island south to Cape San Lucas. As a result, the bluefin tuna purse seine fishery got off to a tardy start in the third week of June, and landings as of July 31 were the lowest since before 1961. Intensified local upwelling and the occurrence of very cold, "green" water probably contributed to the poor showing of bluefin in areas where they usually appear early in the season. Guadalupe Island has been situated in a band of cold water, about 63-64° F, and catches have been few from this locality.

Cold inshore temperatures also appear to have induced a southward movement of typically northern fish species. Mexican fishermen took "about 20-25" silver salmon in gillnets set for white sea bass off Pescadero Point (about 20 miles southwest of Tijuana, Baja California) in 16-18 fathoms of water on August 2. The nets were set about 2-3 fathoms off the bottom. A few silvers had been taken previously, but were not reported, as the fishermen did not know what they were at the time.

Reports of substantial catches of humpback salmon in commercial landings at Eureka during the last week of July led to the establishment of a temporary, separate price for the species. The center of the usual north coastal upwelling in this region appears to be displaced farther northward than in recent years, and apparently has produced conditions favorable to the unusual southward movement of humpbacks.

Sea surface temperatures are warming rapidly in the region along a line extending from the Columbia River mouth southwestward to 42°N., 135°W. This warming has led to the extension of the 2° anomaly isoline farther inshore than last month (see fig. 2). The rate of temperature change currently being observed exceeds that of last year north of the line noted above, and is about average to the south (except close to shore near Cape Blanco, where observed temperatures are up to 5° colder)--see fig. 3.

The profound effects that these rapid, short-term ocean temperature changes have on the distribution, availability, and success of fisheries for given species are just now beginning to form part of a distinguishable pattern. Consequently, research on the constantly-changing ocean environment and its relation to short- and long-term effects on fisheries will receive renewed emphasis by the Tuna Forecasting staff. All unusual and noteworthy occurrences of fish species found outside their usual range, as well as corresponding observations of unusual sea conditions associated with them, should therefore be reported to the Tuna Resources Laboratory as soon as possible.

Glenn A. Flittner
Fishery Biologist (Research)

SEA TEMPERATURE CHARTS TAKE TO THE AIR WAVES

One of the most difficult problems in reporting sea temperature data to interested fishermen has revolved around getting analyzed charts into the hands of the users as soon as possible after completion. Inception of the 15-day sea surface temperature chart series in 1960 (Supplements I and II to California Fishery Market News Service, Part II - Fishing Information) was an attempt to solve the problem, and was intended to shorten the time between observation, analysis, and use by fishermen operating in the highly variable Pacific Coast offshore waters during summertime.

Inception of the daily albacore fishery information broadcast via Government-licensed Radio Station WWD this year was another step in this direction, but only gave current information for specific points up and down the coast.

On July 15, a test broadcast to the albacore fleet of a "canned" current 15-day analysis of the immediate offshore region met with favorable response, and consequently will be continued for the remainder of the albacore fishing season. At the close of each 15-day period, the standard 15-day sea surface temperature charts will be analyzed and printed for mailing as before. In addition, the new chart will be "canned" (coded) in simple format, to be explained below, so that fishermen at sea can plot up their own temperature charts as soon as they are done ashore. To shorten message transmission time, only the positions of the 60° F and 66° F isotherms will be broadcast.[1/]

The coded map will be broadcast twice daily for two consecutive days after completion of each analyzed chart at the Tuna Resources Laboratory on the 15th and 30th day of each month. The "canned" maps will be added to the end of the current daily fishery information broadcasts put out by WWD, and will be coded as follows:

> Map coordinates for 15-day sea temperature charts are coded in 7-digit word group format, giving northernmost positions first.
>
> First 3 numbers are latitude in degrees and tenths.
>
> Last 4 numbers are longitude in degrees and tenths.

[1/] For a review of the relation between these isothermal limits and albacore catches, see Flittner, G. A., 1964. Review of the movement of albacore tuna off the Pacific coast in 1963. U.S. Fish and Wildlife Service, Commercial Fisheries Review, vol. 26, no. 12, p. 13-19.

Sample message:

"Map coordinates for 15-day sea temperature chart ending July 30, covering region east of 130°W. longitude and from latitude 50°N. to 28°N.

"Position 60-degree isotherm

4701290	4001261
4701264	3741250
4621300	3601226
4401256	3401210
4201267	3441200

"Position 66-degree isotherm

3411300	2801228
3041253	2801206
2951214	
2921300	
2831250	

"End of message."

Radio Station WWD's broadcast schedule and assigned frequencies are as follows:

Time of Day	Frequencies (kcs)
1100 PDST (1800 GMT)	4415.8
	8805.6
1945 PDST (0345 GMT)	12403.5

Broadcasts commence promptly on the scheduled times and are transmitted simultaneously on all frequencies. Messages are repeated twice to ensure complete copy, and usually require from 5 to 15 minutes for completion.

SEA SURFACE TEMPERATURE CHARTS, EASTERN PACIFIC OCEAN

JULY 1965

Acknowledgments

The following organizations and stations contributed data for the July 1965 charts:

U.S. Bureau of Commercial Fisheries Exploratory Fishing and Gear Research Base, Seattle, Washington
U.S. Bureau of Commercial Fisheries Biological Laboratories, La Jolla, California; Honolulu, Hawaii, and Seattle, Washington
U.S. Weather Bureau, San Diego, California
U.S. Naval Communication Station Balboa, Fort Amador, Canal Zone
U.S. Weather Bureau Port Meteorological Office, Cristobal, Canal Zone
California Department of Fish and Game R/V Alaska
Fish Commission of Oregon
Hopkins Marine Station, Pacific Grove, California by J. P. Balesteri
Inter-American Geodetic Survey by Rene Cortes at Salina Cruz, Mexico; L. A. Peren at Pt. Armuelles, Panama; R. H. Valencia at San Jose, Guatemala; V. E. Castillo at Tumaco, Colombia; G. Tapia at San Cristobal, Galapagos; S. Valenzuela at La Libertad, Ecuador; E. Guerrero and V. Huatay at Talara, Peru; J. Cardenas at San Juan, Peru
Inter-American Tropical Tuna Commission, La Jolla and Terminal Island, California
Kelco Company, San Diego, California
Lifeguard Headquarters, Newport Beach, California
Oregon State University
Pacific Oceanographic Group, Nanaimo, British Columbia, by H. J. Hollister from observations by T. Collins at Quatsino Lightstation; C. A. Johnson at Cape St. James Light; B. Stuart at Amphitrite Point Light; K. Wallace at Langara Island Light
Scripps Institution of Oceanography, La Jolla, California by Margaret Robinson and Hans Klein
Ships Independence, Royal Pacific, and Monsoon

Charts

Figure 1.--Mean sea surface temperatures (°F) derived from approximately 8000 observations. Squares show temperatures at weather-ship stations. Numerals on shore are temperatures at coastal and light-ship stations.

Figure 2.--Deviation of sea surface temperatures (°F) from long term charts of H.O. 225. Hatched areas are colder than mean.

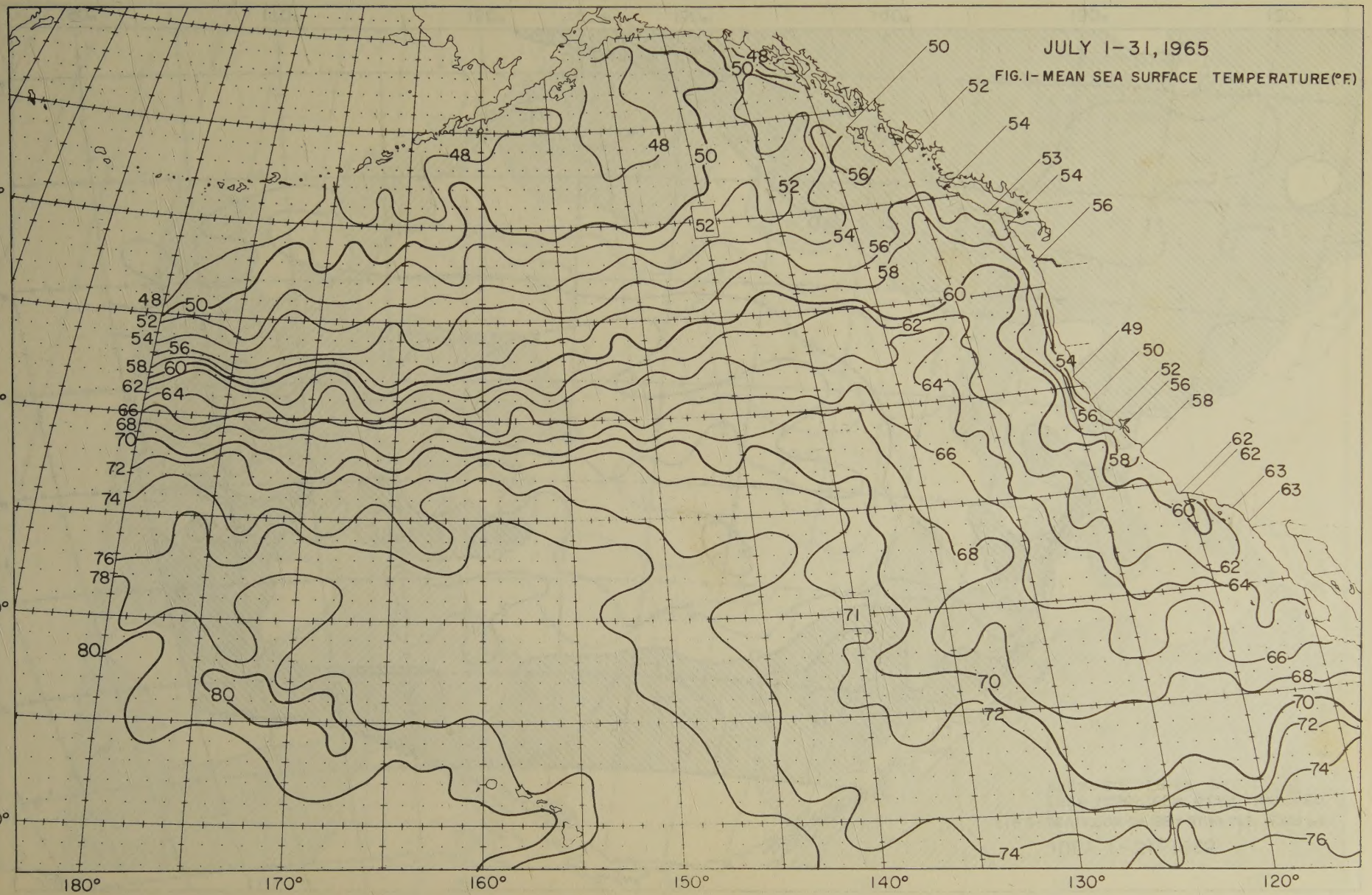
Figure 3.--Deviation of sea surface temperatures (°F) from those of July 1964. Hatched areas are colder than 1964.

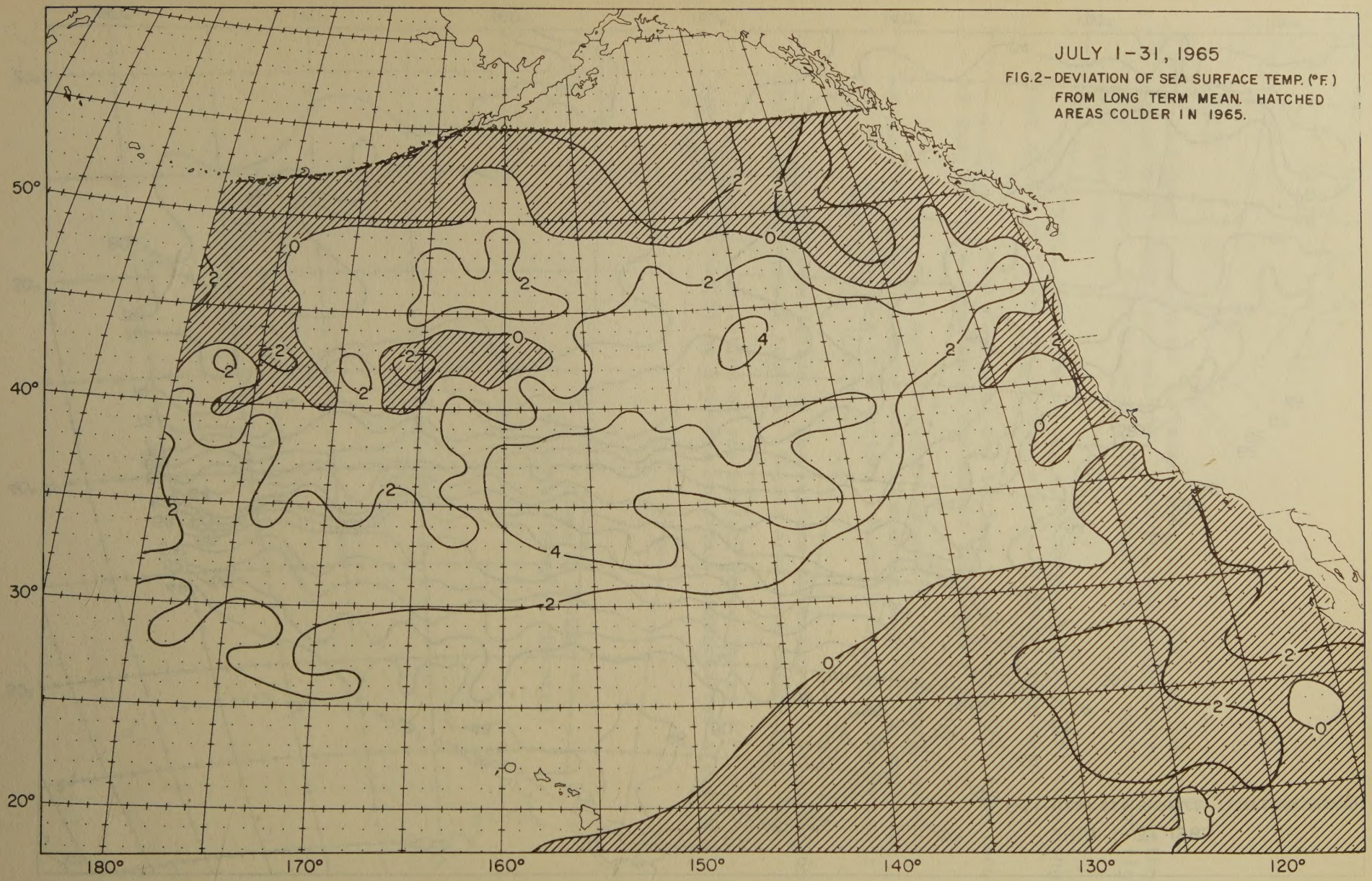
Figure 4.--Sea surface temperatures (°F) by 1-degree squares, approximately 2000 observations. Line under temperatures indicates average of two or more observations. Numerals on shore are temperatures at coastal stations.

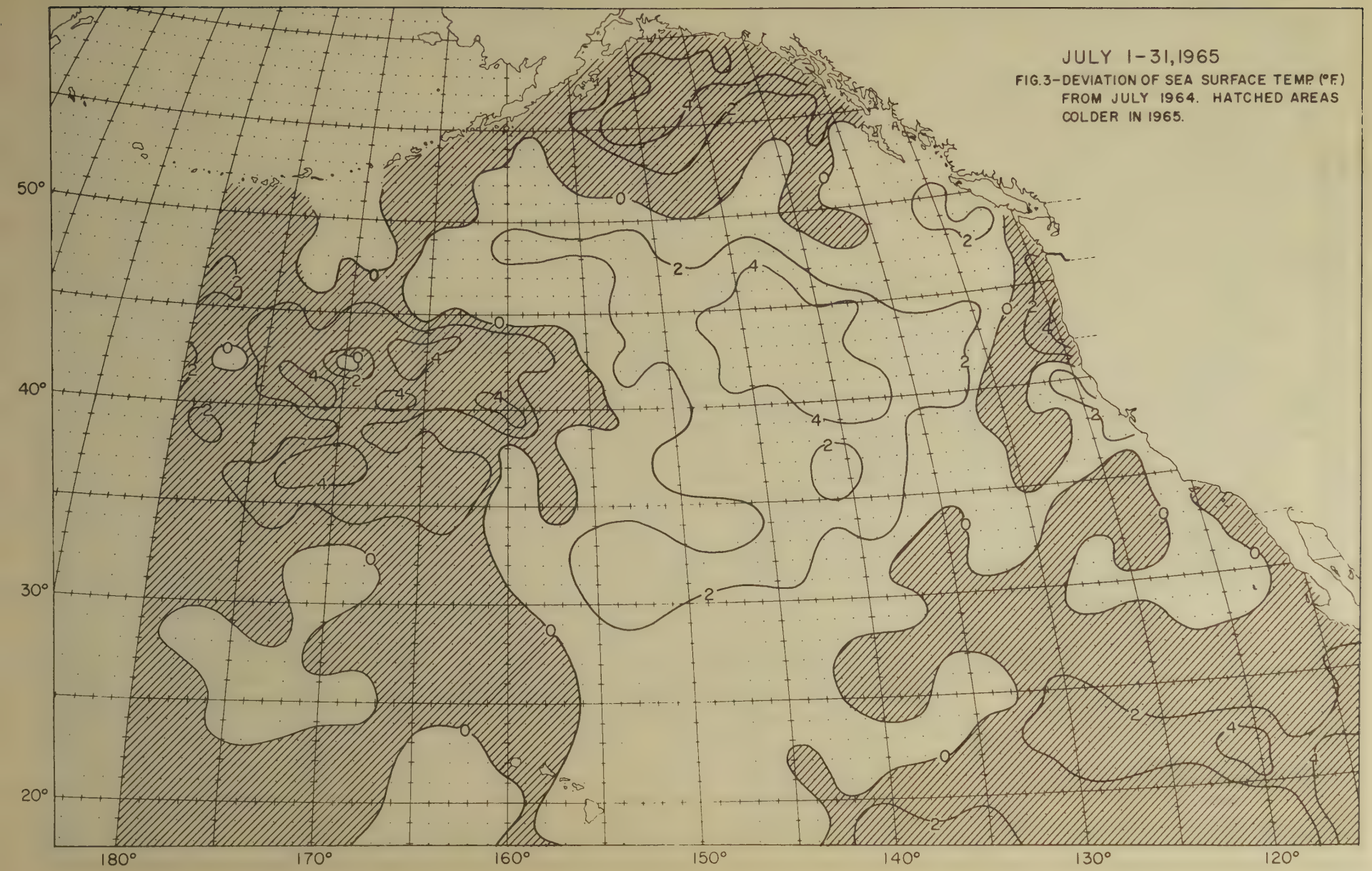
Figure 5.--Deviation of sea surface temperatures (°F) July 1965-July 1964 by 1-degree squares. Shaded areas are colder than 1964.

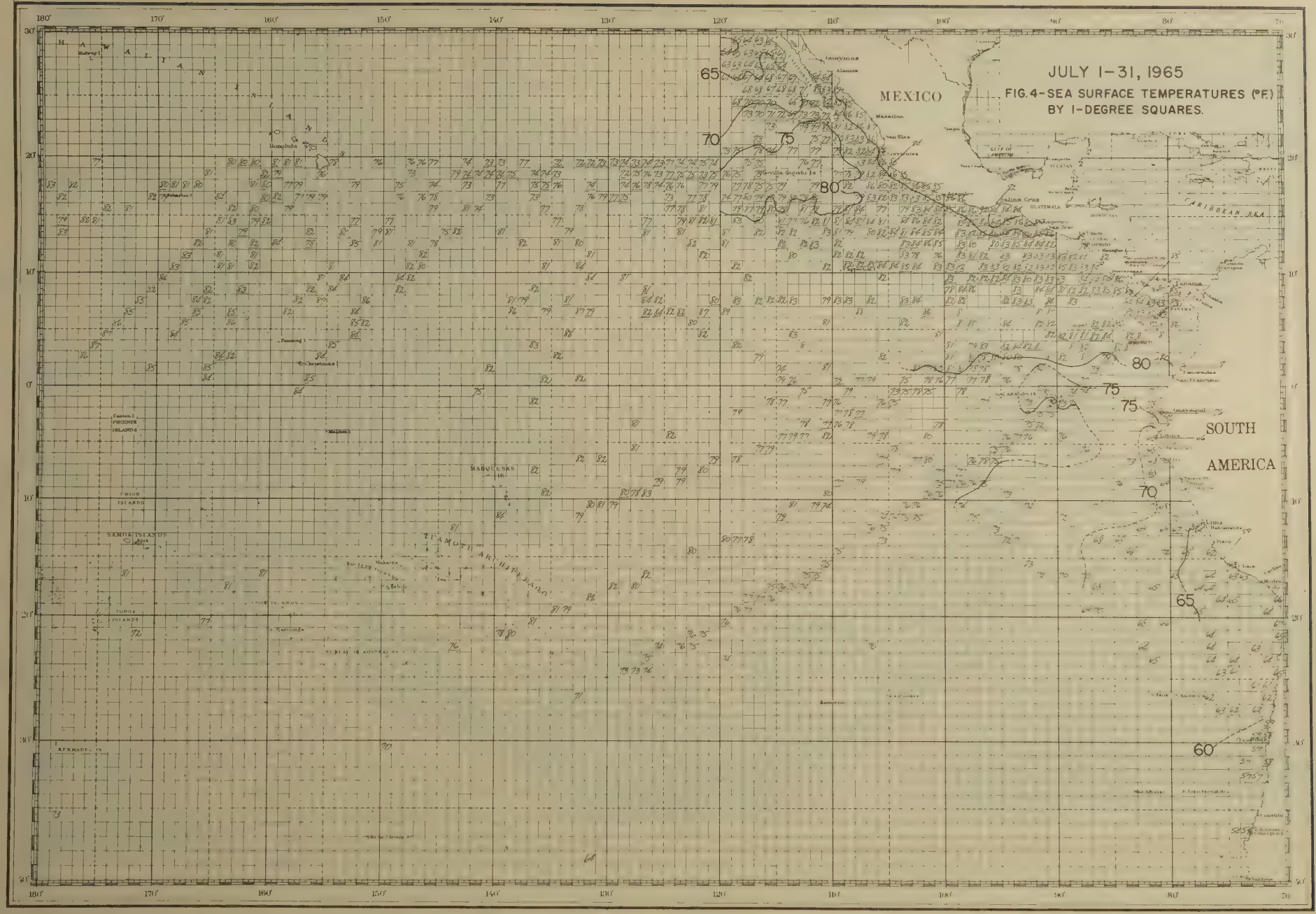
Figure 6.--Deviation of sea surface temperatures (°F) from 12-year mean (1947-1958) by 2-degree squares. Shaded areas are colder in 1965.

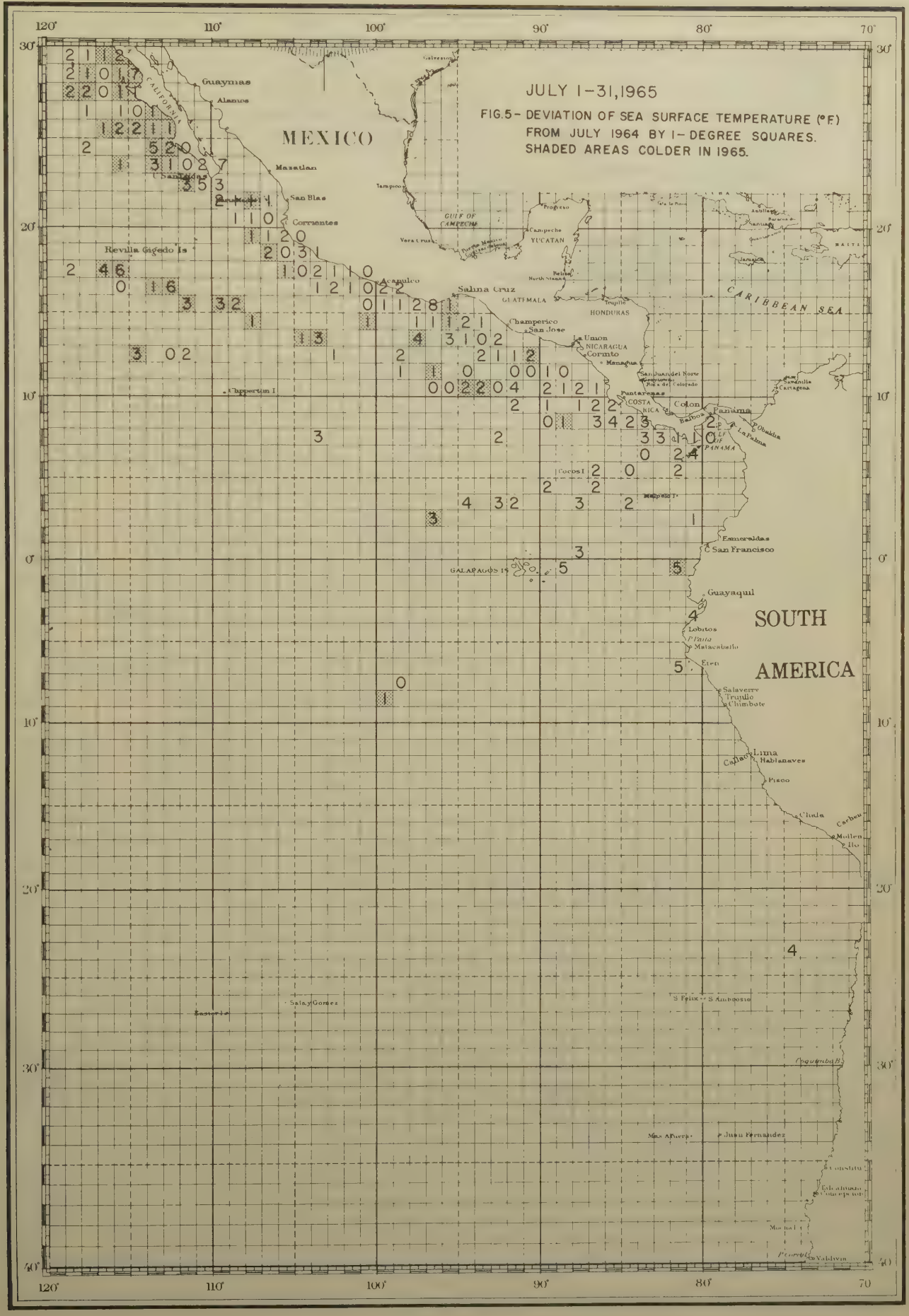
James A. Renner
Fishery Biologist (General)

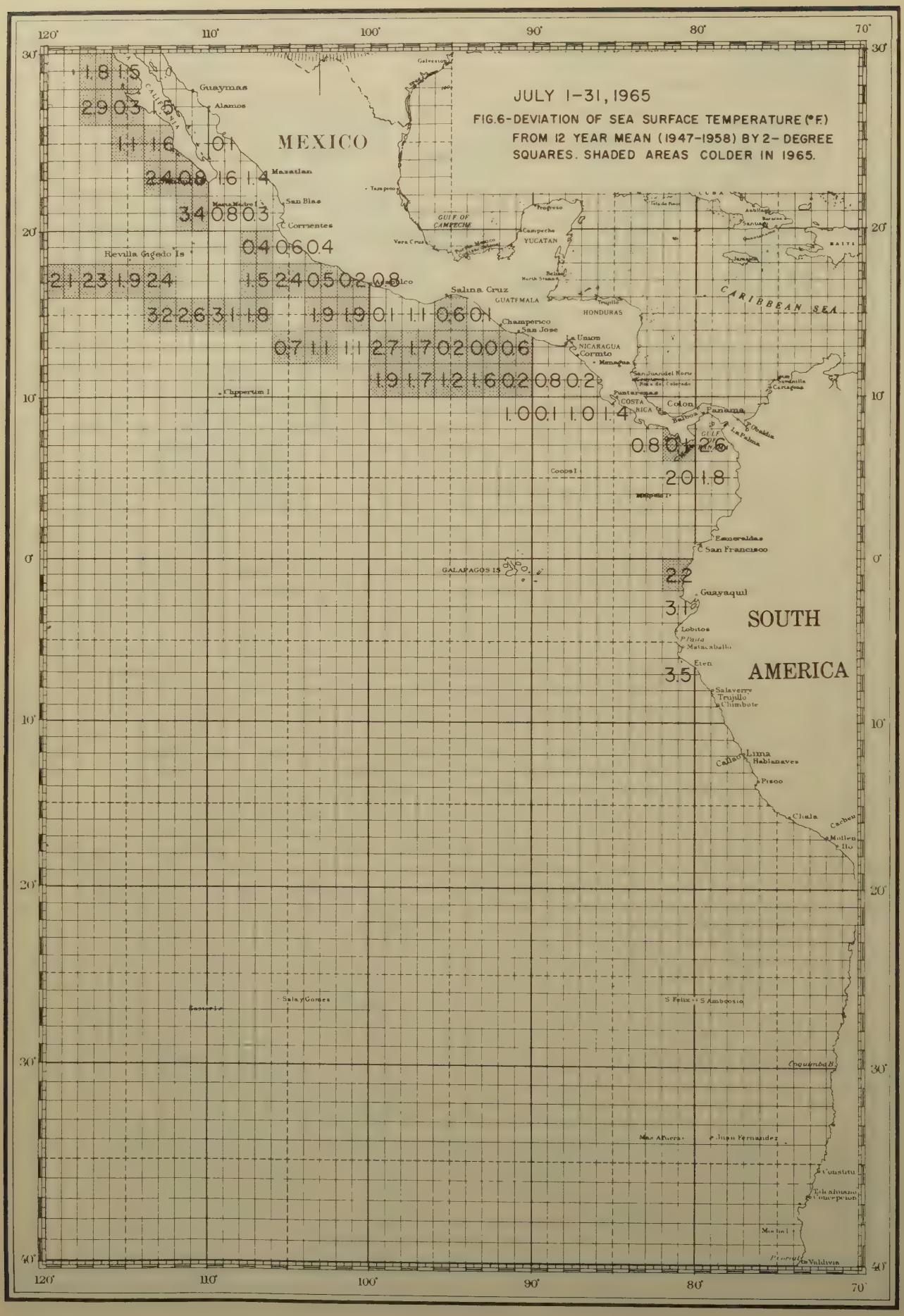

JULY 1-31, 1965
FIG. 1- MEAN SEA SURFACE TEMPERATURE(°F.)
50°
40°
30°
20°
180°
170°
160°
150°
140°
130°
120°
48
50
52
54
56
58
60
62
64
66
68
70
72
74
76
78
80
49
53
63
71


JULY 1-31, 1965
FIG.2-DEVIATION OF SEA SURFACE TEMP. (°F.) FROM LONG TERM MEAN. HATCHED AREAS COLDER IN 1965.
50°
40°
30°
20°
180°
170°
160°
150°
140°
130°
120°


JULY 1-31, 1965
FIG. 3-DEVIATION OF SEA SURFACE TEMP. (°F.) FROM JULY 1964. HATCHED AREAS COLDER IN 1965.
50°
40°
30°
20°
180°
170°
160°
150°
140°
130°
120°


JULY 1–31, 1965
FIG. 4–SEA SURFACE TEMPERATURES (°F.) BY 1-DEGREE SQUARES.
MEXICO
SOUTH AMERICA
CARIBBEAN SEA
HAWAIIAN ISLANDS
Honolulu
Christmas
PHOENIX ISLANDS
MARQUESAS
UNION ISLANDS
SAMOA
TUNGA ISLANDS
BERMUDA
Lima
180°
170°
160°
150°
140°
130°
120°
110°
100°
90°
80°
70°
30°
20°
10°
0°
10°
20°
30°
40°
65
70
75
80
75
80
70
65
60


JULY 1-31, 1965
FIG. 5 - DEVIATION OF SEA SURFACE TEMPERATURE (°F) FROM JULY 1964 BY 1-DEGREE SQUARES. SHADED AREAS COLDER IN 1965.
MEXICO
SOUTH AMERICA
CARIBBEAN SEA
GULF OF CAMPECHE
YUCATAN
GUATEMALA
HONDURAS
NICARAGUA
COSTA RICA
PANAMA
GALAPAGOS IS
Guaymas
Alamos
Mazatlan
San Blas
Corrientes
Revilla Gigedo Is
Acapulco
Salina Cruz
Champerico
San Jose
La Union
Corinto
Managua
Panteneas
Colon
Panama
Cocos I
Esmeraldas
San Francisco
Guayaquil
Lobitos
Talara
Matacabello
Eten
Salaverry
Trujillo
Chimbote
Callao
Lima
Hablanaves
Pisco
Chala
Caraveli
Mollendo
Ilo
Arequipa
Juan Fernandez
Valdivia
Puerto Montt
Sala y Gomez
S. Felix
S. Ambrosio
120°
110°
100°
90°
80°
70°
30°
20°
10°
0°
40°


JULY 1-31, 1965
FIG.6-DEVIATION OF SEA SURFACE TEMPERATURE (°F) FROM 12 YEAR MEAN (1947-1958) BY 2-DEGREE SQUARES. SHADED AREAS COLDER IN 1965.
MEXICO
SOUTH AMERICA
CARIBBEAN SEA
GULF OF CALIFORNIA
GULF OF CAMPECHE
GALAPAGOS IS
Guaymas
Alamos
Mazatlan
San Blas
Corrientes
Revilla Gigedo Is
Salina Cruz
Champerico
San Jose
La Union
Corinto
Managua
Punta Arenas
Colon
Panama
Esmeraldas
San Francisco
Guayaquil
Lobitos
Talara
Eten
Salaverry
Trujillo
Chimbote
Lima
Callao
Pisco
Chala
Mollendo
Ilo
Arica
Iquique
Valdivia
Puerto Montt
Corral
Concepcion
Coquimbo
Progreso
Veracruz
Tampico
Galveston
Belize
Guatemala
Honduras
Nicaragua
Costa Rica
Panama
Cuba
Haiti
Jamaica
Curacao
Aruba
Barbados
Trinidad
Tobago
1.8 1.5
2.9 0.3 1.5
1.1 1.6 -0.1
2.4 0.8 1.6 1.4
3.4 0.8 0.3
0.4 0.6 0.4
2.1 2.3 1.9 2.4 1.5 2.4 0.5 0.2 0.8
3.2 2.6 3.1 1.8 1.9 1.9 0.1 1.1 0.6 0.1
0.7 1.1 1.1 2.7 1.7 0.2 0.0 0.6
1.9 1.7 1.2 1.6 0.2 0.8 0.2
1.0 0.1 1.0 1.4
0.8 0.1 2.6
2.0 1.8
2.2
3.1
3.5
120°
110°
100°
90°
80°
70°
30°
20°
10°
0°
40°

July 1-15, 1965
Part II, Supplement 1
Sea-surface Temperature °F.,

CALIFORNIA FISHERY MARKET NEWS
MONTHLY SUMMARY - JULY

United States
Bureau of Commercial Fisheries
Tuna Resources Laboratory
P. O. Box 271
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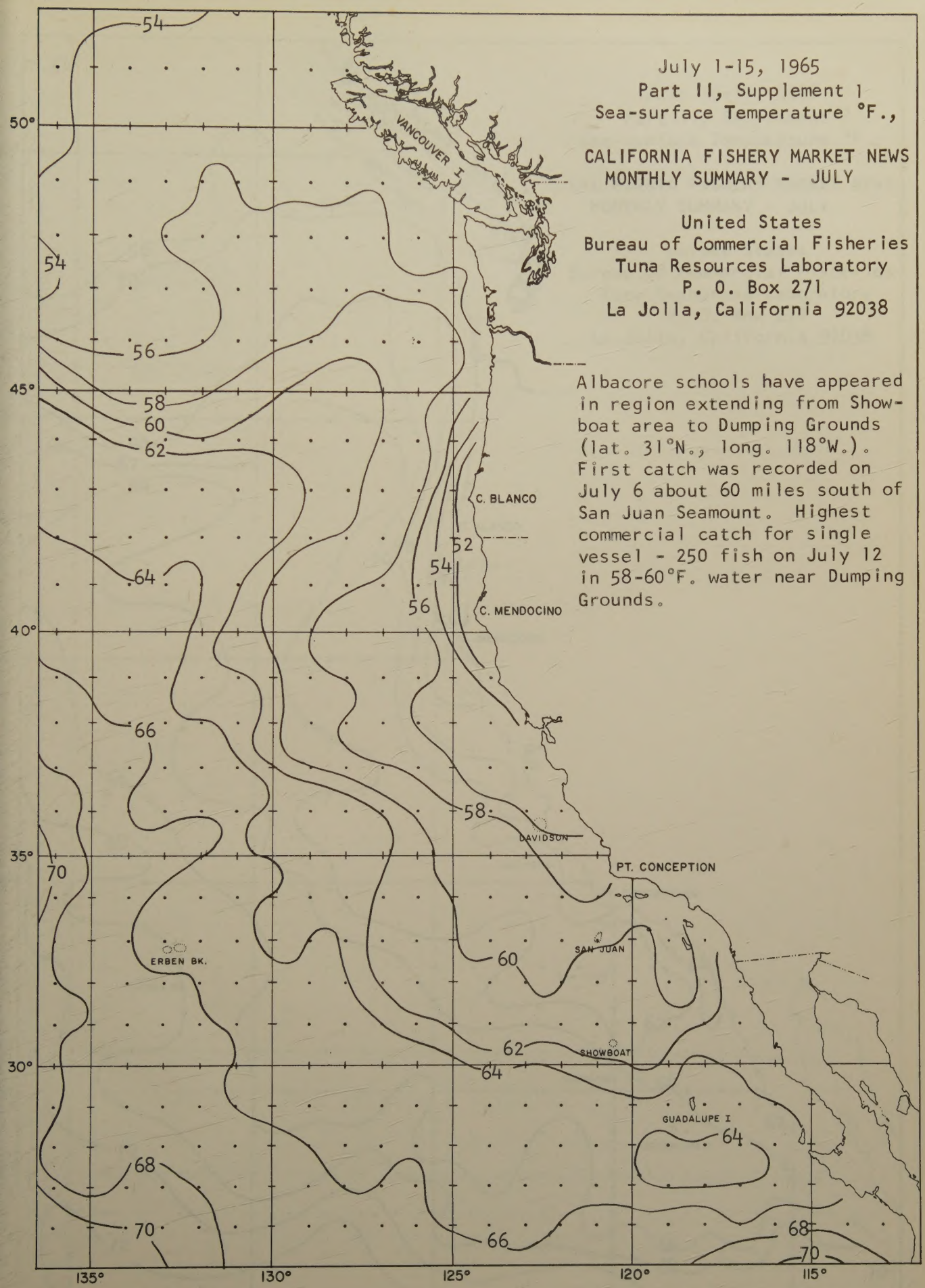
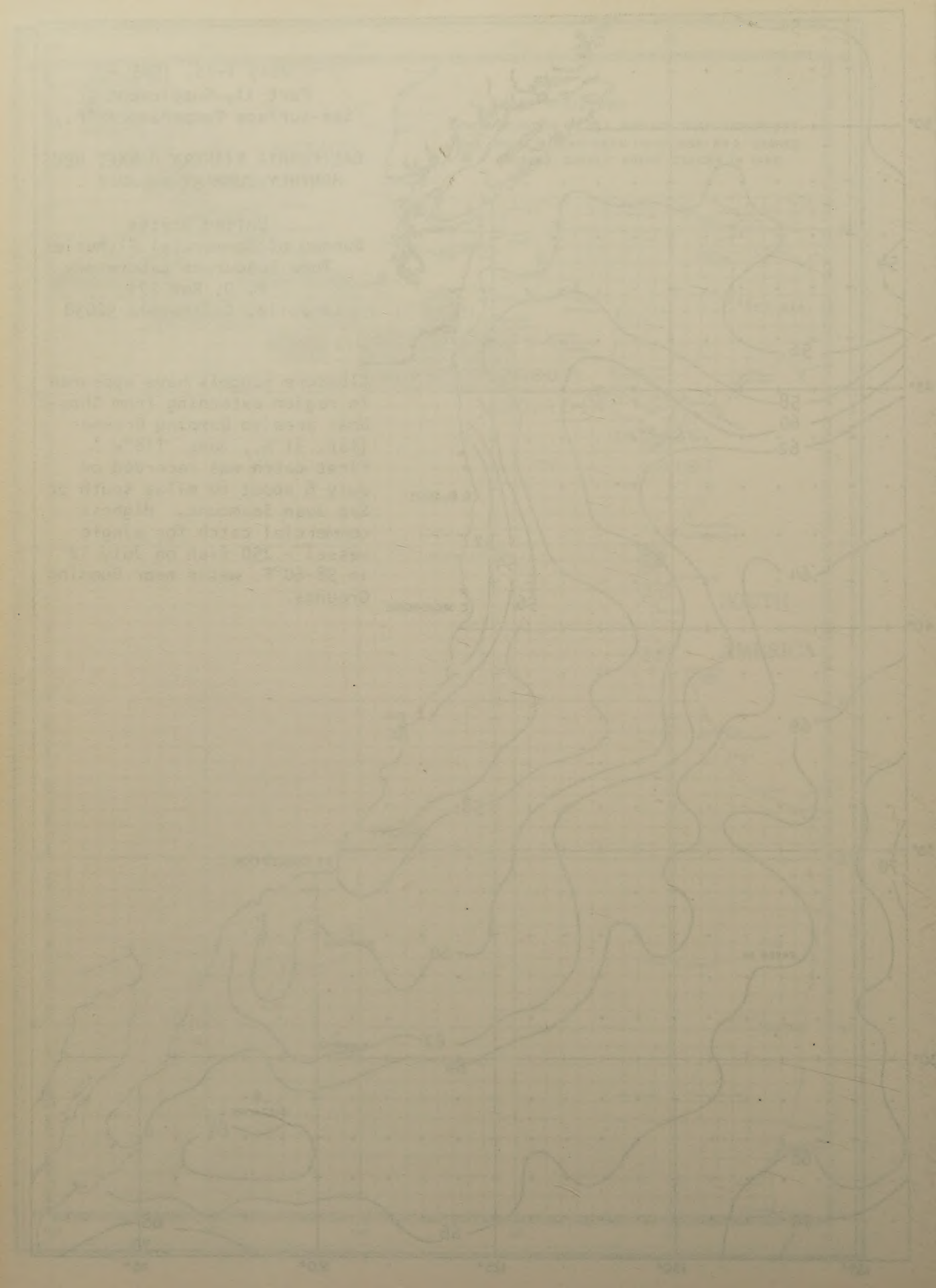
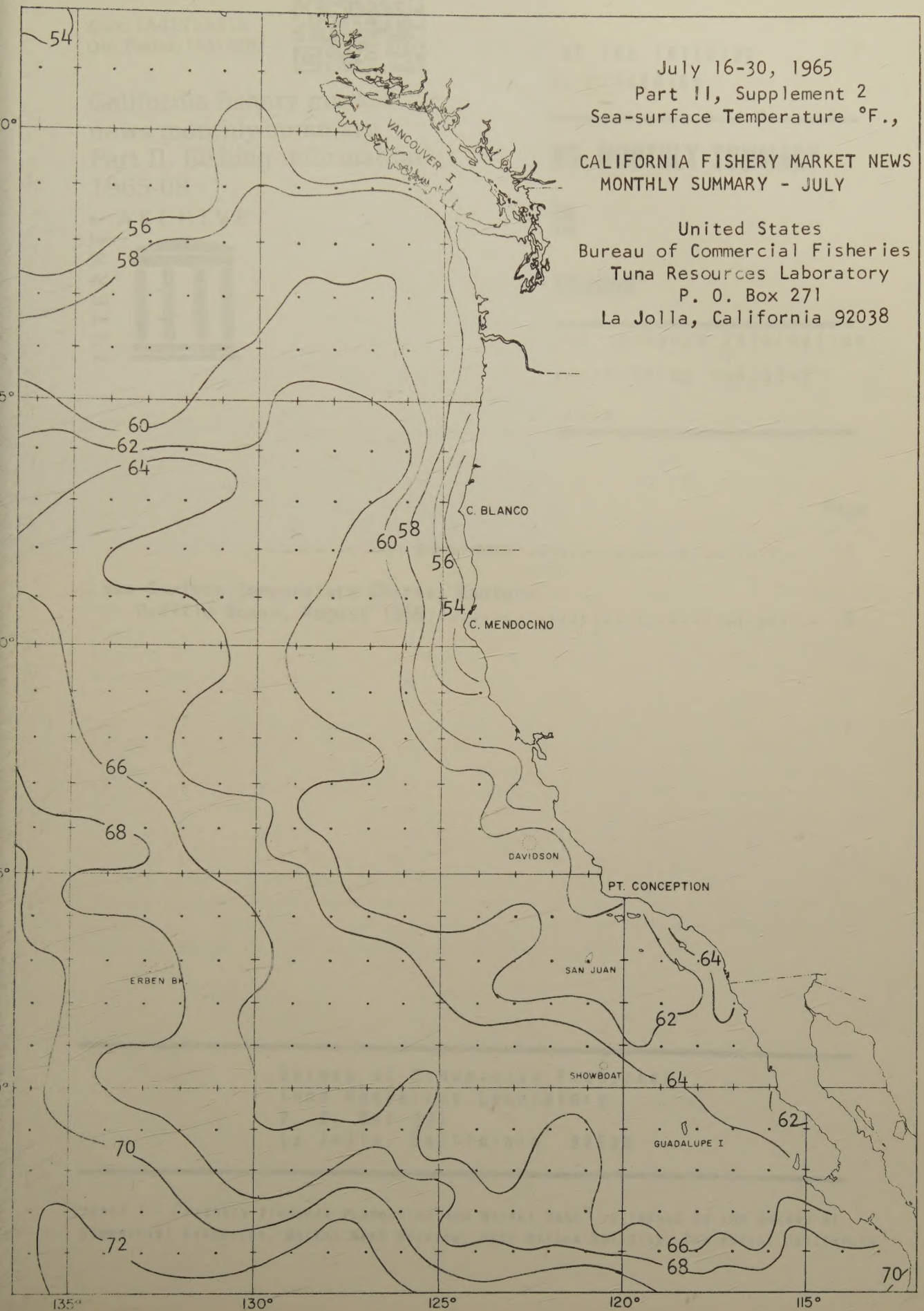
Albacore schools have appeared in region extending from Showboat area to Dumping Grounds (lat. 31°N., long. 118°W.). First catch was recorded on July 6 about 60 miles south of San Juan Seamount. Highest commercial catch for single vessel - 250 fish on July 12 in 58-60°F. water near Dumping Grounds.






July 16-30, 1965
Part II, Supplement 2
Sea-surface Temperature °F.,
CALIFORNIA FISHERY MARKET NEWS
MONTHLY SUMMARY - JULY
United States
Bureau of Commercial Fisheries
Tuna Resources Laboratory
P. O. Box 271
La Jolla, California 92038
VANCOUVER I.
C. BLANCO
C. MENDOCINO
DAVIDSON
PT. CONCEPTION
SAN JUAN
SHOWBOAT
GUADALUPE I
ERBEN BK.
54
56
58
60
62
64
66
68
70
72
135°
130°
125°
120°
115°